

REPLACING CHAMBER COMPONENTS IN A VACUUM ENVIRONMENT**ABSTRACT OF DISCLOSURE**

An apparatus and method are provided for replacing parts in a vacuum chamber without venting the vacuum. A transfer system is used to transfer a removably mounted component from a processing module that is attached to a transfer system and replacing the component with another component from a maintenance system that is connected through an isolation assembly to a transfer module. The maintenance system may include a supply of replacement parts and receive expended or otherwise serviceable items that are to be replaced. These serviceable items may include chamber component that has a tendency to degrade during processes being performed in the processing module. Typically, such items are etched or eroded away or accumulate coatings, requiring occasional removal and replacement. Focus rings, chamber shields, dark space shields, insulators, deposition baffles and adaptors are some of the items requiring periodic replacement. Such items are installed in the process module in a way that permits their removal and replacement by a transfer arm or other transfer mechanism of the transfer system or otherwise by robotic mechanisms. The processing module may be an etching, deposition, ALD, patterning, developing, metrology, thermal processing, cleaning or other module used in a vacuum process, particularly for processing of semiconductor wafers.